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STATISTICAL BULLETIN

METROPOLITAN LIFE INSURANCE COMPANY

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Springtime the Safest Time

ONE great charm of spring not usually cataloged when its virtues are extolled, is that life and limb are safer then than at any other time of year. To April goes the palm for being the safest month. If all the year were April our annual toll of fatal accidents would be 12,500 fewer than it has been in recent years.

Over the entire country in the years 1934 to 1937, every day 285 people, on the average, died as the result of accidental injuries. In the same years the daily average for April was 251 deaths, while deaths in March and May averaged only a few more daily. April's favorable record stands out more sharply if contrasted with the record for July, the worst month, when the average daily toll rises to 367 deaths.

It is not because the mortality from any one special type of accident sinks to a very low level that the spring record is so favorable, but rather because of somewhat lower than average mortality rates for most of the principal types of accidents in March, April, and May. It is a sort of in-between season so far as hazards are concerned. The hazards of burns, slipping on ice, gas asphyxiation, and, among infants, the danger of smothering, all of which are greatly increased by cold weather, become less prominent, while the summertime hazards of swimming and boating, of electricity and of lightning, have not yet begun to figure prominently.

Interesting is the fact that fatal falls reach a minimum in May. In this month the average is 65 deaths daily—four deaths less than the average for the year as a whole, 10 less than in July, the top month, and nine less than in February. In the really warm season, there are the additional hazards of diving and of children falling out of trees and from other high places, in their long hours of play during the vacation season. In winter, snow and ice make walking difficult, and long hours of darkness increase the danger of falls on poorly lighted stairways.

Inasmuch as the need for the various kinds of heating equipment becomes less with the rising temperatures of late spring, the risks involved in their use diminish correspondingly. In May the average daily number of deaths from burns and scalds, conflagrations and gas poisonings, is about half that in the

winter months. The average number of children smothered while sleeping, because of heavy bed clothing, rolling over on their faces, or by being overlain, drops from a daily average of five in the winter months to three in April and May.

Major outdoor sports activities, which in all seasons claim large numbers of lives, take a comparatively low toll in the springtime. Drownings occur more frequently than in the fall or winter, but even in May the average daily loss (26 deaths) is only about one half that in July (51 deaths)—when swimming and boating activities are at a maximum. Fatal shooting accidents are less than half as frequent as in the peak month of the hunting season, November, at which time there is a daily average of 14 deaths from firearms.

As in other seasons, motor vehicle accidents account for a large proportion of all fatal accidental injuries. In the spring months taken together, the average toll in the four-year period covered by our study was about 16 deaths daily less than the average for the year (103 deaths), and 37 below that in the last three months of the year (124 deaths). We use our automobiles less in the spring than in the summer months. There is about as much driving in the fall as in the spring, but the additional hours of darkness make driving in that season more dangerous, while in the winter months there is not only the increased danger due to longer hours of darkness, but there are the additional hazards of ice and sleet on roads and streets.

We are not entirely free from special types of violent deaths in the spring. At this time of the year devastating tornadoes and extensive floods often strike many sections of the country. In some years the loss of life in these cataclysms is considerable, but after all, as in the other seasons, the loss of life in accidents involving only one or two persons make up the bulk of fatal injuries in the springtime.

While we are in the relatively safe part of the year, it would be well to give thought to the hazards we shall have to face throughout the year. In the first place, is it not sobering to think that a season in which more than 250 people daily throughout the country will lose their lives in accidents, must be called a *relatively safe* period? This thought should surely serve to bring out more clearly how serious is the accident problem in our country, and how necessary it is for each of us to try to live more safely. Spring is the season for cleaning house and for making necessary repairs. Clear out the junk from cellars and attics which not only constitutes a serious hazard to life from possible trips and falls, but which also is a serious fire hazard. Have flues and chimneys cleaned and repaired against the starting of the heating season in the fall. But most important, clear out the junk of the mind—the complacency of fixed daily habits which are fraught with hazards. Learn in the spring the safe ways of life to be followed all the year round.

War and the Birth Rate

BELLIGERENT countries naturally experience a fall in their birth rates during a war period, and usually a rise in the rate after the close of hostilities. There is, of course, a lag before the effect appears. These variations, however, vary markedly in degree in different countries, through the influence of such factors as the length and intensity of the conflict, the rapidity with which it develops in each country, and the extent and duration of invasion of the belligerents' own territory.

The experience during and after the World War is of current interest because it may give us an indication of the probable trend of the birth rate in the next few years in the several warring countries. The extent of the fall in the birth rates during the World War is shown in the chart on page 4, which exhibits for the belligerent countries the minimum birth rate during the War period as percent of that in the pre-War period 1911 to 1913.*

In France, Germany, and Belgium the birth rates at the lowest point were all just about half the pre-War rate, but in France the low point was reached earlier than in the other countries. The other western European nations fared better. In Italy, which suffered invasion, though a late-comer in the War, the low point was 56.7 percent of the pre-War rate. Austria, as constituted after the War, even though she was in the War from the beginning, experienced about the same decline as Italy.

Among the European belligerents, the birth rate of England and Wales was the least affected, showing a maximum fall of only 26.9 percent from the pre-War level. This is explained by its isolation from the fighting area and by the time it took for England to reach the peak of her War effort. The birth rate of the United States was little affected by the War. Our minimum rate was but 10 percent below the 1915 rate.

Bulgaria showed the sharpest fall in the recorded birth rate, to 41.7 percent of its pre-War value. This is notable, because Bulgaria did not enter the War until late 1915. Her experience is probably typical of the trend in southeastern Europe, in which there was great devastation, probably even greater in Serbia than in Bulgarian territory. In Hungary also, as at present constituted, the minimum birth rate fell to less than half the pre-War level. The parts of Hungary lost to her by the peace treaty showed even larger declines in the birth rate.

The table on page 5 shows the actual rates for several countries from 1911 to 1925, the pre-War and post-War periods being separately represented by averages. It is well to remember that some of the

*In Bulgaria comparison is based upon the pre-War level of 1910 to 1912 because the 1913 rate was abnormally low following the Balkan wars. In the United States, comparison is made between 1915 and 1919 because, on the one hand, the Birth Registration Area was formed only in 1915 and, on the other hand, the effect of the War on the birth rate in this country could not be felt until 1919, since not until 1918 did the number of men in military service reach a considerable size.

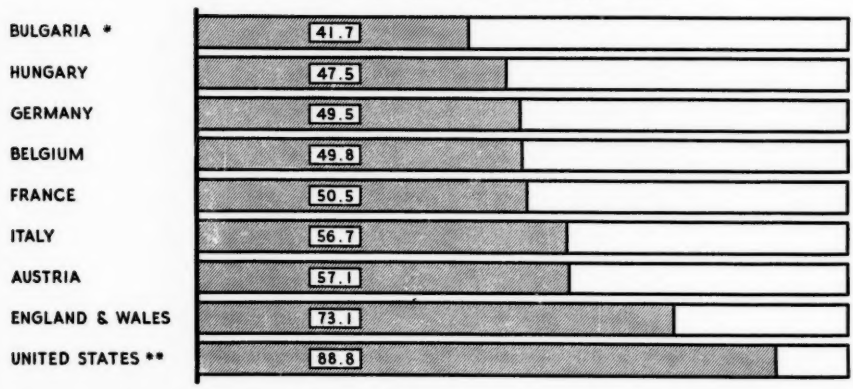
statistics for the War period are based partly upon estimates, because the records of births, particularly in invaded areas, were far from complete and the populations of the various countries were not definitely known. The facts for eastern and southeastern Europe, which suffered most from the War and the post-War upheavals, are practically unknown. The situation must, of course, be considered in the light of the long-term trends of the birth rate, which for some time before the War had already definitely tended downward.

As will be seen in the accompanying table, the rapidity with which the birth rate fell showed marked variations. In France the birth rate fell from 18.1 in 1914 to 11.8 in 1915; reached its minimum of 9.5 in 1916, and then rose slowly until 1919. In Germany the initial fall in the birth rate was less sharp—namely, from 26.8 in 1914 to 20.4 in 1915. The minimum rate of 13.9 was not recorded until 1917, and the 1918 rate was almost as low. In contrast, England's birth rate fell very gradually, showing a loss of only 8 percent between 1914 and 1915, and a further loss of only 5 percent during the next year. The minimum birth rate, in 1918, was almost matched by the rate in 1917.

For the War period as a whole, including 1919, the birth rates were less than 60 percent of the pre-War normal for Hungary; approximately 60 percent for France, Germany, Belgium, and Bulgaria; about 65 percent for Italy and Austria; and 80 percent for England. In most countries the curtailment in births during the War period corresponded to the entire number of births of two whole normal years, on a pre-War basis; in Italy, to the births of 1½ years, but in England, to those of a little less than one year.

In the years immediately after the War there was a rapid rise in the

MINIMUM BIRTH RATES DURING WORLD WAR AS PERCENT OF 1911-1913 BIRTH RATE



* As percent of 1910-1912 ** 1919 as percent of 1915

birth rate. In Germany, Hungary, Austria, Belgium, and Bulgaria this occurred as early as 1919, but in England, France, and Italy a substantial rise in the birth rate was not recorded until 1920. The post-War increase in the birth rate was related, of course, to the high marriage rates of the early post-War years. But it is notable that the maximum post-War birth rates were usually below the pre-War averages.

The post-War rise in birth rates, moreover, was purely temporary. Comparison of the average rates for 1911 to 1913 with those for 1923 to 1925 shows appreciable declines for most countries. This was greatest in the case of Germany, but not much less for England. France forms an exception; it experienced a slight rise in the birth rate, as compared with the pre-War rate.

In practically all countries, the long-term downward trend of the birth rate, already discernible in these averages for 1923 to 1925, was resumed. This was almost inevitable for the chief belligerents, because of the huge loss of life, during the War, among men between the ages of 20 and 35, the period of life in which most of their children are born. Furthermore, the bad economic condition of many countries after the War caused thousands of married couples to refrain from having children.

It is likely that the present War will have similar effects on the birth rate as did the last War. In Poland the effects will be earliest and greatest because of the disorganization of civil life there. In Germany distinct consciousness on the part of high officials of the War and post-War trends probably explains their recent expressions of concern regarding the

Birth Rates per 1,000 in Various Countries of the World, 1911–1925

(Minimum during World War in boldface; post-War maximum in italics)

Country	1911-1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923-1925
Bulgaria†	41.2*	45.1	40.2	21.3	**17.2**	21.2	32.8	39.9	40.2	*40.5*	38.1
Hungary‡	34.3	34.2	23.6	17.0	16.5	**16.3**	27.6	31.4	*31.8*	30.8	28.1
France‡	18.8	18.1	11.8	**9.5**	10.4	12.1	13.0	*21.4*	20.7	19.3	18.9
Belgium†	22.7	20.4	16.1	12.9	**11.3**	**11.3**	16.3	*22.1*	21.8	20.4	20.0
Germany†	28.1	26.8	20.4	15.2	**13.9**	14.3	20.0	*25.9*	25.3	23.0	20.9
Italy†	31.9	31.0	30.5	24.0	19.5	**18.1**	21.4	*31.8*	29.2	30.8	29.1
Austria‡	24.9	23.8	18.5	14.8	**13.9**	14.1	18.5	22.7	*23.2*	23.1	21.5
England and Wales	24.2	23.8	21.8	21.0	17.8	**17.7**	18.5	*25.5*	22.4	20.4	18.9
U. S. Birth Registration Area ¶	¶	¶	25.1	25.0	24.7	24.6	**22.3**¶	23.7	*24.2*	22.3	22.0

*1910-1912. See also footnote on page 3.

†Actual territory of the country during the specified year or period, with minor exceptions.

‡Post-War territory.

¶See footnote on page 3.

Sources: Latest official publication of each country, except Austria for 1914-1918 and 1921-1925, the data for which are taken from "Aperçu annuel de la démographie des divers pays du monde," Institut International de Statistique, 1922 and 1932, respectively.

immediate trend of the birth rate. Indeed, they have proposed such measures as the encouragement and legitimizing of births out of wedlock, to counter the expected downward trend; but with 4,000,000 men reported to be in military service, such proposals may have but little effect. In the other warring countries there is undoubtedly like concern over the birth rate. While it may take some time for the War to show any effect on the number of births in the three principal countries now involved, since the War has been so slow in getting under way, unquestionably the withdrawal of large numbers of men from civilian life will cause a fall in the birth rate, which will be the greater the longer the War lasts and the more severe the conflict.

A New High Level in the Probability of Dying from Cancer

THE elimination of cancer as a cause of death would increase appreciably the average length of life. If this disease had been nonexistent in 1937, the average length of life corresponding to mortality conditions of that year would have been 1.82 years greater in the case of white females and 1.17 years greater in the case of white males. These figures constitute a measure of the toll this disease takes. If these gains could be realized, they would bring with them not only longer life but the elimination of much human suffering as well.

But medical science does not, as yet, give even a hint of the elimination of cancer from its position as the second most important among the causes of death and, therefore, it still remains a serious question to determine what are the average individual's chances of eventually dying from this cause. A study of current statistics indicates that, if present conditions of mortality remain unchanged, cancer will take as its toll by death about 14 out of every 100 women and about 12 out of every 100 men. Not quite 20 years ago the chances of eventually dying from cancer were about 12 in 100 for women and 9 in 100 for men. These figures relate to white persons of adult ages in the general population of the United States in 1937 and in 1920, respectively. Details for specific ages are shown graphically in the chart on page 8, where the situations for 1925 and 1930 are also presented.

The chance of eventually dying from this cause naturally increases, to some extent, with advance in age, since cancer is essentially a disease of late life. For example, the chart shows, among white males, a steady rise in the curve relating to the year 1937, from the low point of almost 10 per 100 at birth, to a maximum of almost 12 per 100 at age 55. Beyond this age the curve slopes downward. Among white females the rise in the curve at the early ages is not as marked as in the

case of males, and the maximum point occurs 20 years earlier in life. Here the curve rises from the low point of 13 per 100 at birth to a high of 14 per 100 at age 35; from this point, the curve slopes downward—at first gradually, then more rapidly.

It may seem an anomaly that, at the higher ages of life, the chances of eventually dying from cancer should become less, despite the fact that the disease has its greatest incidence at these very ages. The explanation is not hard to find. Although the death rate from cancer increases with age, at the very high ages it does not increase as rapidly with advance in age as does the death rate from causes other than cancer—in particular, cardiovascular conditions. As a result, at the high ages, the chances of eventually dying from some cause other than cancer must necessarily increase, and, since ultimate death from one cause or another is a certainty, the chances of eventual death from cancer will diminish.

The curves for the previous years —1930, 1925, and 1920—follow the general pattern of the curves for 1937, but lie at lower levels. In comparing these curves it is important to bear in mind that they not only reflect the changes in cancer mortality, but that they are also influenced by the general improvement in longevity. With an increasing proportion of persons surviving to the older ages, at which the incidence of cancer is high, it is fairly obvious that the chances of eventual death from this condition will mount, even if its mortality rate at each age remains unchanged. Thus a beneficial situation—our improving longevity—is emphasizing a national health problem—that of cancer.

Inspection of the successive curves shows that, at birth, the chances of eventual death from cancer increased most rapidly from 1920 to 1925, less rapidly from 1925 to 1930, and again suffered a marked increase from 1930 to 1937. In the case of males, the chances at birth rose from 7 per 100 in 1920 to almost 10 per 100 in 1937, while among females they rose from almost 10 per 100 in 1920 to practically 13 per 100 in 1937. When comparisons for 1920 and 1937 are made at some typical adult age, say 50 years, the chances per 100 of eventual death from cancer are found to be about 9 and 12, respectively, for males, and 12 and 14, respectively, for females. An interesting feature worth noting is that at every age from 5 to 50 years, the chances of eventual death from cancer for males in 1937 were less than those for females in 1920.

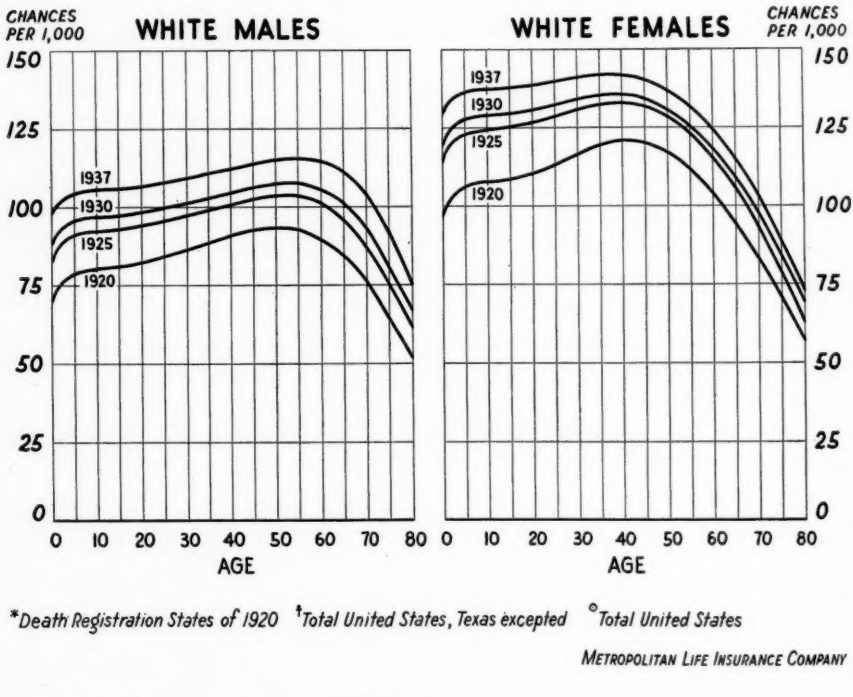
Directly or indirectly, the problem of cancer will, at some time, become an actuality to a great number of our present population. In addition to the eventual victims of cancer by death—14 out of every 100 women and 12 out of every 100 men, *should present conditions remain as they are* —there will be a large number of cases in which a cancer cure will be effected by early and diligent surgical care. It cannot be overlooked that each cancer patient represents

not only a direct source of suffering to himself, but also a great trial to those upon whom falls the burden of his care.

It is fitting to emphasize, in closing, the growing extent of the cancer problem. There were recorded, in the United States, 149,214 deaths from cancer in 1938. If cancer mortality conditions now prevailing remain unchanged, with the aging of our population, this number will grow to 192,000 by 1950 and to about 278,000 by 1970.*

*These estimates are based upon cancer death rates specific for age, color, and sex, in the United States in 1936, and the "medium" forecast population estimates published by the National Resources Committee in "Population Statistics; No. 1, National Data," October 1937.

CHANCES OF EVENTUALLY DYING FROM CANCER
BY COLOR, SEX & AGE - UNITED STATES, 1920*, 1925*, 1930† & 1937°



*Death Registration States of 1920 †Total United States, Texas excepted °Total United States

METROPOLITAN LIFE INSURANCE COMPANY

The Metropolitan Exhibits at the World's Fairs of 1940

THE Metropolitan Life Insurance Company this year is again exhibiting at the New York World's Fair and at the Golden Gate International Exposition in San Francisco. These two exhibits, which in 1939 attracted about 2,500,000 visitors, have been redesigned to

include a number of new and interesting features. Among the innovations at the West Coast exhibit will be a "health quiz" similar to that conducted at the New York Fair last year. This will be under the joint sponsorship of the United States Public Health Service and the Metropolitan.

At the Company's two exhibits, the artist's brush, the sculptor's chisel, and the architect's imagination have combined to portray the activities of a mutual Life insurance company in making available programs of security to the American people. The exhibits illustrate how the Company protects millions of families in the United States and Canada against the financial losses resulting from sickness, accident, and death. Other displays show the varied activities of the Company to promote general welfare and reduce the needlessly heavy toll of life and limb now taken by ignorance and carelessness.

The Company cordially invites readers of the STATISTICAL BULLETIN to visit its exhibits in the Business Systems and Insurance Building, New York World's Fair, on and after May 11, 1940, and in the Hall of Science, Golden Gate International Exposition, San Francisco, beginning May 25, 1940.

Health Record for February 1940

DESPITE the rigorous winter through which we have just passed, the year-to-date death rate of the many millions of Metropolitan Industrial policyholders at the end of February was at the remarkably low level of 8.5 per 1,000. This is a new record of low mortality, for the like part of any year, in this important cross-section of the United States and Canada.

Reports of the mortality in the general population of 88 major cities of the United States, during January and February, point, however, to a very small increase in the death rate as compared with the first two months of 1939. The reports from both sources are highly satisfactory, as 1939 was a remarkably favorable health year—the best on record for the Company's Industrial policyholders and one of the best in the country at large.

Seven individual causes of death show materially lower year-to-date mortality rates than were registered for the first two months of 1939. These are measles, scarlet fever, whooping cough, diphtheria, pneumonia, diarrheal diseases, and homicides. Less significant improvement is in evidence for heart disease, puerperal conditions, suicides, and fatalities caused by motor vehicles. On the unfavorable side are substantially higher mortalities for influenza, cancer, diabetes, diseases of the coronary arteries, and chronic nephritis. There were small increases for tuberculosis, syphilis, cerebral hemorrhage, appendicitis, accidents (all forms combined), and accidents in the home.

Reports of the prevalence of communicable diseases, throughout the country, show that influenza was the only disease which caused more sickness in February than in either the preceding month of January or in February 1939. The incidence of this disease was almost 150 percent greater than at this time last year. A particularly gratifying item relates to smallpox. Only 250 cases were reported in February as against 1,654 for the same month of last year.

Among the items of special health interest recently reported are the following: The National Maritime Union is making a survey, among member seamen, to determine the prevalence of tuberculosis. The Department of Health of New York City, The Bureau of Industrial Hygiene, The New York State Department of Labor, The Lower West Side District Health Committee, and The Waterfront Research Committee are participating in the examinations. It is planned to X-ray 20,000 seamen in New York. The Department of Health of Puerto Rico has been allotted more than $500,000 by the W.P.A. and the insular government to build sanitary facilities in the rural areas of the island, as a part of an anti-hookworm campaign.

The following table shows the mortality among Industrial policyholders for February 1940, January 1940, and February 1939, together with the death rates for the first two months of each year.

METROPOLITAN LIFE INSURANCE COMPANY

Death Rates per 100,000 Policyholders from Selected Causes. Industrial Department. Weekly Premium-Paying Business*

Causes of Death	Annual Rate per 100,000 Policyholders*				
	February 1940	January 1940	February 1939	Year to Date: End of February	
				1940	1939
All Causes—Total	871.7	830.4	870.6	850.0	863.2
Typhoid fever	.2	.5	.2	.4	.4
Measles	.3	.4	.8	.4	.9
Scarlet fever	.8	.7	.8	.8	1.3
Whooping cough	1.6	1.5	2.4	1.5	2.0
Diphtheria	1.5	1.6	1.8	1.5	2.0
Influenza	19.4	13.8	13.0	16.5	12.3
Pneumonia (all forms)	63.9	53.2	76.1	58.3	75.2
Tuberculosis (all forms)	46.1	44.2	43.5	45.1	43.4
Tuberculosis of respiratory system	42.9	40.2	40.6	41.5	39.1
Syphilis	12.1	12.7	10.5†	12.4	10.5†
Cancer (all forms)	103.6	101.5	99.2	102.5	98.3
Diabetes mellitus	32.8	29.9	27.7	31.3	28.7
Cerebral hemorrhage	68.3	65.2	68.5	66.7	66.1
Diseases of the coronary arteries	50.6	54.0	43.1	52.4	42.5
Angina pectoris	4.0	3.4	8.2	3.7	7.8
Diseases of the heart (other forms)‡	186.0	171.0	183.1	178.1	179.1
Diarrhea and enteritis	3.5	3.8	5.8	3.6	5.2
Appendicitis	8.8	8.4	8.6	8.6	8.3
Chronic nephritis	61.1	60.8	56.5	60.9	55.3
Puerperal state—total	4.1	5.0	5.8	4.6	5.1
Suicides	7.5	7.6	8.1	7.6	8.0
Homicides	3.0	2.9	3.6	3.0	4.4
Accidents—total	46.3	50.1	41.0	48.3	46.7
Home accidents	14.8	16.0	12.7	15.4	14.1
Motor vehicle accidents	15.7	18.7	15.5	17.3	19.0
Automobile accidents§	14.8	17.4	14.8	16.1	17.9
All other causes of death	146.3	138.0	162.2	142.0	159.7

*The rates for 1939 and 1940 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

†Excludes aneurysm of the aorta.

‡Excludes pericarditis, acute endocarditis, and acute myocarditis.

§Excludes collisions between automobiles and railroad trains or streetcars.

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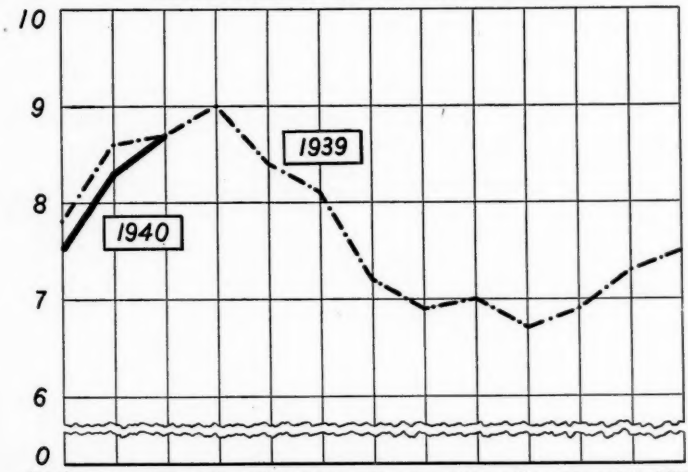
MORTALITY FROM ALL CAUSES

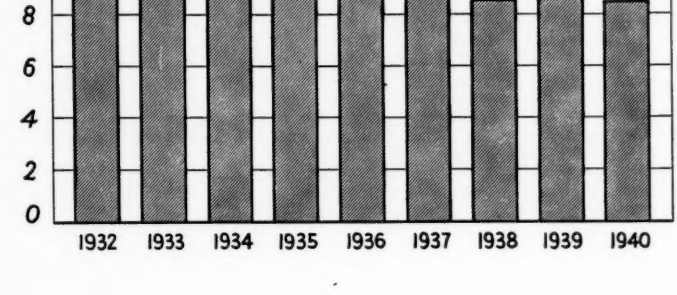
METROPOLITAN LIFE INSURANCE COMPANY
DEATH RATES PER 1,000 POLICYHOLDERS - ANNUAL BASIS
INDUSTRIAL DEPARTMENT · WEEKLY PREMIUM-PAYING BUSINESS

DEATH RATES BY MONTHS: 1939 AND 1940



	(DEC)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1939		8.6	8.7	9.0	8.4	8.1	7.2	6.9	7.0	6.7	6.9	7.3	7.5
1940		8.3	8.7										

DEATH RATES FOR JANUARY - FEBRUARY, 1932 - 1940



Rates for 1939 and 1940 are Provisional

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